

## REMARKS/ARGUMENTS

Claims 1 – 35 remain in the application.

Claims 10 – 29 and 35 are hereby amended.

Original claims 1 – 35 were rejected under 35 USC §102(a) as being anticipated by U.S. Patent No. 5,859,383 to D.K. Davison et al.

Original claims 1 – 35 were also rejected under 35 USC §103(e) as unpatentable over U.S. Patent No. 6,554,081 to J.E. Brooks et al and U.S. Patent No. 6,732,798 to A.B. Johnson et al.

The present invention is a method and apparatus for positioning bottomhole well tools in long, deviated wellbores. In particular, Applicants' invention is especially applicable to bottomhole tool placement in wellbores that extend for great distances at low horizontal angles. At paragraph [0014], Applicant's specification expansively describes and **defines the concept of “angle of repose”**. In those segments of a wellbore where the borehole direction is less than the angle of repose, a tool string of other than neutral buoyancy must be pushed or pulled along the wellbore in frictional contact with the wellbore wall. Frictional forces between the wellbore wall and the tool string oppose any movement of the tool string. When the wall friction forces on a tool string extending at less than an angle of repose equal the weight of the tool string extended at an angle greater than the angle of repose, the system equilibrates. Additional, outside forces are required to force the tool string further along the wellbore. Applicants' invention teaches the concepts, engineering methods and structures to minimize wellbore wall contact by a bottomhole tool such as a perforating gun along such a low wellbore angle. Fundamentally, Applicants' teach a method and apparatus that **coordinates the distributed weight and volume of the bottomhole tool assembly to achieve an approximately neutral buoyancy**. Applicants' specification paragraphs [0053] – [0059].

As an important adjunct to the foregoing features distinctive to Applicant's invention is a method and apparatus for gravitationally orienting the bottomhole tool. To maximize the advantage of a near-buoyant tool for reaching bottomhole depth, it is highly desirable to predetermine the angular orientation of the shaped charge jet axis

about the longitudinal tool axis relative to the vertical plane. For implementation of this objective, Applicants' have employed a ballast concept wherein an **eccentrically weighted line along the tool outer dimension** imposes a vertical plane bias on the tool. Notably, gravity biased ballast on a well tool would have no purpose EXCEPT in the case of a horizontal bore hole.

U.S. Patent No. 5,859,383 to D.K. Davison et al describes fabrication parameters for a shaped charge explosive device. Specifically, the Davison et al disclosure describes shaped charge explosive formulations (columns 4 – 6), liner materials and configurations (columns 7 – 10) and confinement bodies (column 13, lines 5 – 13). Applicants' find nothing in the Davison disclosure to substantiate the Examiner's allegation that Davison et al discloses

"a method of placing a bottom hole tool assembly within a wellbore containing a fluid wherein at least a portion of the wellbore directional course is advanced along a slope that is less than an angle of repose for said tool assembly against a wall surface of said wellbore..." Examiner's Detailed Action, Page 2.

Respectfully, the Examiner is requested to identify those statements in the Davison et al specification, by column and line number, and explain, in detail, how those Davison et al statements justify the 35 USC §102(b) rejection premise that Applicants' invention claims are "anticipated" by Davison et al. **In fact, the Davison et al disclosure has no relevance to the invention of original claims 1-9 and 30-34.** . The rejection is respectfully traversed

U.S. Patent No. 6,554,081 to J.E. Brooks et al is directed to a perforating gun construction method and apparatus for preventing or attenuating the propagation of premature ignition shock. Briefly, the string of shaped charges in the Brooks et al perforating gun is "encapsulated" by porous material such as "porous solids or liquids ... any material filled in part with compressible elements or a compressible volume." Column 5, lines 43- 57. There is nothing in the Brooks et al disclosure that teaches or even suggests any manipulation of such porous encapsulation materials to influence the **buoyancy** of the perforating gun. The possibility that such materials may be used

to regulate tool buoyancy is irrelevant to the concept of actually teaching such a utilitarian objective. Without a prior art teaching, the Brooks et al encapsulation materials have no relevance to Applicants' invention. **Applicants' respectfully submit that relevance of the Brooks et al disclosure to Applicant's invention claims has been transferred from Applicant's disclosure – a prohibited examination practice.** No disclosure or teaching of tool buoyancy is to be found from the four corners of the Brooks et al disclosure. Accordingly, the 35 USC §102(e) **rejection** of Applicant's original invention claims 1-9 and 30-34 as anticipated by Brooks et al is respectfully **traversed**.

U.S. Patent No. 6,732,798 to A.B. Johnson et al alleges to be a Continuation-In-Part invention derived from the Brooks et al disclosure. Hence, the respective disclosures have many similarities. The greatest similarity of Johnson et al with Brooks et al is use of a shaped charge encapsulating material having a porous nature. However, the porous nature of the Johnson et al encapsulant is utilized as a control parameter for transient pressure underbalance when the perforating gun is discharged. The degree of transient pressure underbalance may be influenced by the volumetric quantity of pore space that is collapsed by the gun discharge. As in the case of the Brooks et al disclosure, **Johnson et al neither discloses nor teaches anything about tool buoyancy or wellbore angle of repose. It may only be concluded that relevance of the Johnson et al disclosure to Applicant's invention claims has been transferred from Applicant's disclosure – a prohibited examination practice.** Accordingly, the 35 USC §102(e) **rejection** of Applicant's original claims 1-9 and 30-34 as anticipated by Johnson et al is respectfully **traversed**.

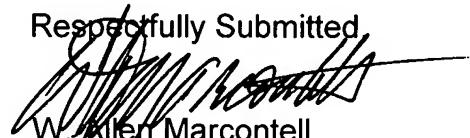
References have been cited in ostensible support of 35 USC §102 rejections of Applicant's clear and unambiguous invention claims. Invention distinctive language has been extracted from Applicants' claims and attributed to the reference disclosures without source identification or explanation. Clearly, **an inappropriate legal**

**standard of invention “anticipation” has been applied.** None of the cited references has even alluded to the concept of tool buoyancy. Similarly, not one of these references has the slightest concern for “angle of repose”. There is no reference to the concept – much less, the operative use of the term. That the prior art discloses a material that may, in the estimation of the Examiner, be useful in the practice of a claimed invention is NOT an “anticipation” under 35 USC §102. *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568 (Fed. Cir. 1996); *In re Dembiczak*, 175 F.3d 994 (Fed. Cir. 1999). Moreover, mere disclosure of a presumptively relevant material, without an express teaching to use the material in a manner claimed, could not be “obvious” under 35 USC §103.

Applicants' original apparatus claims 10-29 and 35 have been amended to incorporate elements of buoyancy determination or shaped charge discharge orientation relative to vertical or both. Neither of these concepts have been taught or even alluded to by the prior art.

In view of the foregoing amendments, arguments and remarks, Applicants' respectfully request the Examiner's reconsideration and allowance of claims 1 – 35 as clearly patentable over the disclosures of Davison et al, Brooks et al and Johnson et al.

Respectfully Submitted

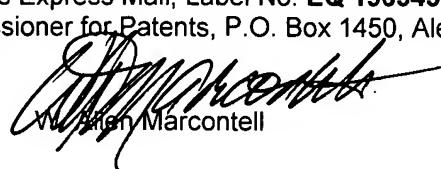


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